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| 09/746,352 | 12/21/2000 | Jingdong Lin | J. LIN 3 | 1689 |

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HITT GAINES P.C.
P.O. BOX 832570
RICHARDSON, TX 75083

| EXAMINER | |
|---|---|
| WANG, TED M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2634 | 4 |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/746,352 | LIN, JINGDONG | |
| | Examiner | Art Unit | |
| | Ted M Wang | 2634 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12/21/2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-28 are pending in the application.

### *Specification*

2. The disclosure is objected to because of the following informalities:

- Page 26 line 17, "FIGURE 4A" should be changed to "FIGHRE 6A".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al. (PT6,553,063).

- In regard claim 1, Lin et al. discloses a constellation-multiplexed transmitter and receiver with an assorter configured to receive first and second signals having disparate transmission characteristics (Fig.2 and 4, and column 8 line 55 – column 9 line13) and select one of said first and second signals (Fig.2 element 18 and Fig.4 element 49, and column 6 lines 49-67);
  and a translator, coupled to said assorter, configured to encode said selected one of said first and second signals into a symbol representation as a function of a transmission characteristic associated therewith (Fig.2 elements 16 and 17 and Fig.4 elements 45-48 and column 6 lines 13-67).
- In regard claim 2, the limitation of a parsing subsystem configured to extract control information associated with said first and second signals can further be taught in Fig.2 element 13 and Fig.4 element 41, and column 5 line 6 – column 6 line 25 and Fig.6 and column 7 lines 29-60, and claim 17;
  and a selector, coupled to said parsing subsystem, configured to select one of said first and second signals in accordance with said control information (Fig.2 elements 18 and 22 and Fig.4 element 49 AND 53) can further be taught in Fig.2 element 18 and Fig.4 element 49, and column 6 lines 49-67.
- In regard claim 3, the limitation of a map table evoker configured to determine a conversion table to employ with said selected one of said first and second signals can further be taught in Fig.2 element 16 and Fig.4 element 48, and column 5 line 1 – column 6 line 48;

and a converter, coupled to said map table evoker, configured to encode said one of said first and second signals into said symbol representation can further be taught in Fig.2 element 17, Fig.4 element 47, Fig.5a and 5b, and column 6 line 13 – column 7 line 27.

- In regard claim 4, all limitation can further be taught in column 8 line 55 – column 9 line13.
- In regard claim 5, the limitation that the system is embodied in at least one of a transmitter and a receiver associated with a telecommunications network associated with said communications channel can further be taught in Fig.2-6 and claims 1-10.
- In regard claim 6, the limitation that the system is at least partially embodied in a sequence of operating instructions operable on a processor can further be taught in column 8 lines 55-66.
- In regard claim 7, the limitation that communications channel has a frequency dependent channel capacity and said first and second signals have different bit error rate transmission characteristics, said translator configured to encode said selected one of said first and second signals into said symbol representation as a function of said bit error rate transmission characteristics and said channel capacity can further be taught in column 3 lines 41-65.
- In regard claim 8, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

- In regard claim 9, which is a method claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 10, which is a method claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 11, which is a method claim related to claim 4, all limitation is contained in claim 4. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 12, which is a method claim related to claim 5, all limitation is contained in claim 5. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 13, which is a method claim related to claim 6, all limitation is contained in claim 6. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 14, which is a method claim related to claim 7, all limitation is contained in claim 7. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 15, which is a means function claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

- In regard claim 16, which is a means function claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 17, which is a means function claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 18, which is a means function claim related to claim 4, all limitation is contained in claim 4. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 19, which is a means function claim related to claim 5, all limitation is contained in claim 5. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 20, which is a means function claim related to claim 6, all limitation is contained in claim 6. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 21, which is a means function claim related to claim 7, all limitation is contained in claim 7. The explanation of all the limitation is already addressed in the above paragraph.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (PT6,553,063) in view of Hansen (US2002/0097791).

- In regard claim 22, Lin et al. discloses a constellation-multiplexed transmitter and receiver with a modulator, coupled to said bit-to-symbol mapping subsystem (or constellation mapper), that modulates said symbol representation for insertion on to said communications channel (Fig.4 element 51 and column 6 lines 26-62) and with other limitation described in claim 1 except specifically teaching that a bit merge and framer subsystem and a bit-to-symbol mapping subsystem coupled to the bit merge and framer subsystem.

  Hansen discloses a method and apparatus for constellation mapping and bit loading in multi-carrier transceiver with a bit merge and framer subsystem (Fig.1 elements 24, 30, and 36) and a bit-to-symbol mapping subsystem (Fig.1 element 40) coupled to the bit merge and framer subsystem in order to perform for each of the different information types (voice, video, and data, etc), such that transmission carriers are selected for optimal bit rates and error rates.

  It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lin's constellation-multiplexed transmitter in view of Hansen's disclosure in order to perform for each of the different information types (voice,

video, and data, etc), such that transmission carriers are selected for optimal bit rates and error rates.

- In regard claim 23, which is a system claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 24, which is a system claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.

***Conclusion***

7. Reference 6,535,497, 6,269,129, and 6,084,917 are cited because they are put pertinent to the multiple user for enhanced capacity radio communication. However, none of references teach detailed connection as recited in claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang

STEPHEN CHIN
SUPERVISORY PATENT EXAMINE'
TECHNOLOGY CENTER 2600